NAVAL AVIATION SAFETY CENTER
NAVAL AIR STATION
NORFOLK, VIRGINIA 23511

112/[illegible]
Ser 386
3 April 1968

SPECIAL HANDLING REQUIRED IAW OPNAVINST 3750.6 SERIES
FOR OFFICIAL USE ONLY

From: Commander, Naval Aviation Safety Center
To: Commanding Officer, Naval Air Reserve Training Unit, Naval Air Station, Alameda, California

Subj: NARTU Alameda AAR ser 4-68A concerning A-4A BuNo 142160 accident occurring 14 January 1968, pilot COVILL

1. The subject report and all endorsements thereon have been reviewed. Commander, Naval Aviation Safety Center concurs with the comments and recommendations of the Aircraft Accident Board as modified by subsequent endorsers.

2. The cause of this accident has been recorded at the NAVAVNSAFECEN as follows:

a. PRIMARY FACTOR: PILOT (continuing VFR flight into IFR conditions.

b. CONTRIBUTING FACTORS:

(1) PILOT (poor navigation planning).

(2) OTHER PERSONNEL--supervisory (pilot of other aircraft--allowing flight to continue VFR into IFR conditions when acting as flight leader).

(3) WEATHER (below minimums for this flight).

(b) (6) [redacted]

By direction

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PART V: THE ACCIDENT

On the afternoon of 14 January 1968, LCDR Clarence T. COVILL, (b) (6) (b) , USNR and LCDR Alan L. MEADER, (b) (6) USNR, departed on a Sandblower/NATOPS flight. The NARTU Flight Schedule called for take-off at Alameda on 14 January and return the same day (2+00 enroute). The schedule called for a Sandblower SB-225/NATOPS Check Flight. The route of flight sketched in on the back of the local flight plan filed showed a route of flight on the SB-225 route with minor deviation as depicted in enclosure (6). Basically, the route to be followed would have taken them to a point 92 miles north of Alameda, then to the NAAS Fallon, Nevada area and return, passing over several extensive mountainous areas enroute.

At 1344U, LCDR COVILL in A4A BUNO 142[illegible] and LCDR MEADER in BUNO 137817 departed on a VFR local flight plan, round robin Navy Alameda to Navy Alameda.

At 1617U, NARTU Alameda Operations was notified by the NAS Alameda Tower that both aircraft were overdue. A tower check at this time with Lemoore, Fallon, Hamilton, McClellan and Oakland Center revealed no contact with either aircraft. At 1648U, a communications search was commenced with all stations/fields in the area. The results of this search was negative.

At 1925U, the 41st Air Rescue Squadron at Hamilton AFB launched a C-130 aircraft for continued communications search.

No NARTU Alameda aircraft were launched on the search due to darkness and deteriorating weather.

At 2350U, the Air Rescue C-130 aircraft returned and landed at Hamilton AFB with negative results.

At 0745U, 15 January 1968, launching of NARTU search aircraft under the direction of the 41st Air Rescue Squadron began. A total of eleven (11) search flights were made by NARTU aircraft on this date. All areas were searched as directed, weather permitting.

At 1355U, Air Rescue Hamilton advised that they had a report from a civilian that he had heard a muffled explosion at about 1400U, 14 January 1968, between Guinda, California and Esparto, California.

At 1427U, NARTU S2D 60-160 was launched to search this area which is approximately sixty miles north of NAS Alameda. At 1545U, NARTU 60-160 advised that they had located what was believed to be the wreckage of both aircraft 14NM on radial 190° of the Williams VOR. At 1714U, NARTU SH-3AJ 60-304 was launched to the crash scene.

At 1721U, Air Rescue Hamilton advised that two paramedics had parachuted to the ground near the wreckage and were approaching it on foot. At 1925U,

Air Rescue Hamilton advised that the wreckage had been identified by NARTU and paramedic personnel as the two lost NARTU Alameda aircraft and that both pilots had been killed.

Both aircraft, in formation had crashed at the 1100' MSL level while descending at approximately a 25-30° angle, wings level. Both aircraft sustained ALPHA damage in accordance with OPNAV INST 3750.6F

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PART VI: DAMAGE TO THE AIRCRAFT.

Both aircraft received ALPHA damage as a result of the accident. Both aircraft collided with the ground, wings level, at a 25-30° nose down angle. The aircraft were in formation at the time, LCDR COVILL leading the flight in A/A BUNO 142160 and LCDR MEADER in a left step down echelon position ninety feet aft of the lead aircraft.

The crash occurred at approximately the 1100' MSL level on the upper part of a high ridge. The aircraft impacted at high speed (approximately 340-360 knots), exploding on impact (enclosure (2), photo #2). Most of the wreckage of both aircraft was scattered along the flight path and was found strewn over a wide area on the adjoining mountain slope due to the high speed and explosion. Several small brush fires occurred, but quickly burned themselves out due to the heavy rain and wetness of the terrain.

The explosion of both aircraft on impact was so strong that both engines were completely torn apart and bits and pieces were strewn all over the hillside. The largest portions of either aircraft readily identifiable were center section portions of wing panels and portions of both tail/vertical fin sections. Small pieces and sections of the cockpit area and both ejection seats were recovered, indicating total destruction/disintegration of the cockpit area on impact.

PART VII: THE INVESTIGATION

1. At 1545U on 15 January 1968, NARTU Alameda received notification that the wreckage of A&A BUNO's 137817 and 142160 had been located at 38°51' North Latitude and 122°10' West Longitude. The wreckage of the two aircraft was located by a NARTU Alameda S-2B search aircraft at the 1100' MSL level near the base of a downward slope in the upper region of a mountain ridge slightly northeast of the town of Guinda, California.

2. At 1721U, Air Rescue Hamilton advised that two paramedics had parachuted to the ground near the wreckage and were approaching it on foot. A short time later, NARTU personnel, using an SH-3J helicopter landed near the crash site and definite identification of the two missing aircraft and deceased pilots was made. Due to darkness and the location of the wreckage in a rough inaccessible area, the AAR Board assembled and made plans to go to the crash site at 0700U the next morning (16 Jan 1968).

3. The AAR Board arrived and landed near the crash site at 0800U, 16 Jan 68. Investigation of the crash site/wreckage was commenced and approval was received from the Yolo County Cororner to remove the remains of the pilots via Navy helicopter to the Oak Knoll Naval Hospital. As previously reported, the crash site was northeast of the small town of Guinda, California.

4. The aircraft crashed on a heading of approximately 080° magnetic about three (3) miles northeast of the town of Guinda at approximately the 1100' MSL level of a 1971' high mountain ridge.

5. The impact craters of both aircraft and the wreckage distribution established the fact that the aircraft were in formation at the time of impact. LCDR COVILL in BUNO 142160 was leading the flight and LCDR MEADER in BUNO 137817 was in a step down left echelon position. LCDR COVILL's aircraft contacted the ground in a near wings level condition near a 25-30° nose down angle. LCDR MEADER's aircraft contacted the ground in a slight right wing down condition at near a 25-30° nose down angle. LCDR MEADER's aircraft appeared to have been in the process of moving in to a closer wing position at the time of impact.

6. Impact was at a high speed as evidenced by the total destruction of both aircraft and the great distance along the flight path and on the far hillside that wreckage parts were blown.

7. The wreckage was inspected thoroughly by the Board and the following additional determinations made:

a. Explosion of both aircraft occurred immediately upon contact, which is substantiated by the lack of continuity of any aircraft sections and damage to trees and terrain area immediately forward of the impact point (enclosure (2), photo #2). There were numerous pieces of all sections of the aircraft intermingled from the point of impact throughout the wreckage area. Also, most of the aircraft accessories were broken from explosion and were scattered throughout the wreckage area.

b. Portions of both engines showed evidence of 80%+ engine RPM at time of impact as evidenced by the severe bending of compressor blades and the absence of engine compressor blades from the disc assembly. Further indication of engine RPM was evidenced by the severely bent turbine buckets opposite to the direction of rotation in the engine turbine section (enclosure (2), photo #8). A combination impact and terrific explosion broke the engines into many pieces as shown in the overhead wreckage photo (enclosure (2), photo #2).

c. Based on the following evidence, the Board is of the opinion that both pilots were killed on impact explosion; pieces of both pilots' navigational gear, flight suits, hard hats, boots, etc., along with pieces of canopy plexiglass and instrument panels were scattered from the point of impact along the projected flight path throughout the wreckage area.

d. Analysis of many small pieces of both ejection seats revealed no indication that either pilot attempted to eject. This is based on the fact that both canopy sills were broken and were located in the same general area as the other wreckage. The seat rocket in LCDR COVILL's aircraft was broken where the launcher breech and launcher tube join. The booster strip was still live. The canopy bungee, which is actuated in the primary movement of the face curtain, was never actuated in LCDR MEADER's aircraft (enclosure 8).

8. The following pertinent facts were determined during the ensuing investigation:

a. Both aircraft were filled to capacity (one (1) full centerline drop tank and internal fuel). Allowing for start, taxi time, take-off and 0+13 minutes of flight time, the aircraft weighed approximately 16,000 pounds at the time of the accident.

9. Available records pertaining to the pilots involved were reviewed by the Board. The following was determined:

a. LCDR COVILL and LCDR MEADER were scheduled to fly in accordance with existing NARTU Alameda instructions. This flight was scheduled/approved per the NARTU published flight schedule of Sunday, 14 January 1968 (enclosure 4). Both pilots filed for this flight on a local VFR flight plan made up and signed by LCDR MEADER, the chase/instructor pilot (enclosure 3).

b. Both LCDR COVILL and LCDR MEADER were qualified to perform the flight.

c. LCDR COVILL transitioned into the A-4 series aircraft in August, 1963, and at the time of the accident had flown 195 A-4 flight hours. He had a total of 3188 hours of flight time in all types and 2350 hours in jet type aircraft. LCDR COVILL completed the A-4 NATOPS written exam on 10 Nov 67 and flew his last A-4 NATOPS check flight on 2 November 1966. This particular flight was to be his annual A-4 re-qualification NATOPS check. LCDR COVILL had the reputation of being an outstanding pilot. He flew 232 hours

in the last twelve months; however, he was maintaining currency in three different type aircraft (A-4, P-2, and T-33). In December 1967, he was designated to fly the A-4 type aircraft only in order to maintain desired yearly flight hour requirements.

d. LCDR MEADER transitioned into A-4 series aircraft in September, 1965 and at the time of the accident had flown 480 A-4 flight hours. He had a total of 3836 hours of flight time in all types and 2517 hours in jet type aircraft. LCDR MEADER completed the A-4 NATOPS written exam on 22 April 67 and flew his last A-4 NATOPS check flight on 7 April 67. LCDR MEADER also had the reputation of being an outstanding pilot and exceptionally well qualified in the A-4 aircraft. At the time of the accident, he was the Assistant VA Program Manager at NARTU Alameda and as such assisted in the overall supervision and training of three (3) Selected Reserve A-4 VA squadrons.

10. Investigation revealed the following additional pilot factors:

Review of both pilots' activities during the preceding 24 hours (enclosure 1) revealed that LCDR MEADER had less than his normal sleep the night before the accident, having stayed up at a neighbor's playing cards until 1 AM (enclosure 1). LCDR MEADER had flown one previous 1.6 hour flight the day of the accident which would have had no bearing on the accident. An autopsy on the remains of both pilots revealed nothing pertinent. Striated muscle specimens were submitted to AFIP for lactic acid tests. No other suitable specimens were obtained. Results of these tests, if pertinent, will be forwarded at a later date.

11. The Board deliberated at great length on the question as to why two mature pilots with the background and training LCDR MEADER and LCDR COVILL had, would file for a low level Sandblower flight under the existing weather conditions.

The weather at Ukiah (the nearest weather station in the mountain areas north of Alameda) at 1400U was reported to be ESTIMATED 600 BROKEN, 1300 OVERCAST, 2 MILES VISIBILITY, LIGHT RAIN AND FOG, TEMP 52°, DEW POINT 51° (enclosure 11). Sacramento FAA Radar reports and San Francisco flash advisories issued for the period covering 1300-1500U indicated extremely low ceilings, light to moderate rain and poor visibility in all areas of Northern California (north of Alameda). Various cloud/weather layers from the surface up to 20,000 were reported.

The pilots filed a local flight plan which requires that they check the weather by phone or other means. There was no indication of a weather briefing on the pilots flight plan other than LCDR MEADER's signature under the finely printed statement that the weather was VFR and forecast to remain so for the duration of their flight.

This particular Sandblower route was flown by two (2) Selected Reserve pilots between 0930-1135U the same day as the accident.

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The pilots, LCDR [redacted] and LT [redacted] of VA-876 obtained a weather briefing over the phone for the planned route. They were advised by METRO that the weather would be marginal and that a SB-225 flight would probably be impractical. This flight took off at 0930, proceeded to the first check point at East Park Reservoir and then half way to the second check point (near Sutters Butte) and over the valley, the weather began to deteriorate rapidly. The pilots discontinued the SB-225 flight at that time and turned to the south where the weather was good. They finished their flight flying to Fresno, back to Crows Landing and returned then to NAS Alameda.

The NAS Alameda Duty Forecaster had not logged, nor could he remember giving any telephone brief for any VFR Sandblower flight in the Northern California or Northwestern Nevada area (enclosure (11)). He stated that had such a request been made, he would have very strongly recommended against such a flight.

The Board could only conclude that the pilots involved either did not attempt to get a weather brief for the Sandblower route or that they only asked for weather at particular points and felt the weather in between these points would be VFR.

The Board discussed the legality and advisability of flying Sandblower flights on a local (DD-1080) flight plan vs a DD-175. Had the pilots filed a DD-175 or complied with the local regulations for use of the local DD-1080 form in connection with its use for Sandblower flights, a proper weather briefing would have been accomplished. As far as the Board could determine, a local (DD-1080) flight plan was legal in all respects for this particular flight; however, the advisability of its use for a Sandblower flight is questionable. Various pilots were interviewed concerning the weather briefing that they receive when using the DD-1080. Briefings received were found to be varied; most pilots interviewed stated that they always phoned weather and received a complete weather briefing, others stated that they did not when the weather was obviously good.

The procedures used and the instructions followed by the NAS Alameda Fleet Weather office were investigated by the Board. The Fleet Weather Central folder and the procedures used for briefing Sandblower routes were found to be adequate.

The weather as shown in enclosure (11) indicates very obviously that the SB-225 route weather was below the minimums of 3000' ceiling and 5 miles visibility throughout most of the route.

It is obvious, therefore, that the pilots violated FAA, NAS Alameda and COMFAIR Alameda instructions when they attempted to pursue the flight.

A review of past flight schedules revealed that LCDR MEADER and LCDR COVILL were previously scheduled for a NATOPS/Sandblower flight on Friday,

12 January, but due to aircraft availability were not able to complete it. LCDR COVILL's NATOPS qualifications expired on 2 Nov 1967 and with the annual Readiness Inspection scheduled for 18, 19 and 20 January, it is possible that undue pressure to complete the NATOPS check before the inspection may have indirectly influenced these pilots' good judgement. Both pilots had been working hard in preparing for the forthcoming inspection, which could have caused additional mental pressure. These pressures may have distracted from the maximum attention being given this flight.

The Board is of the opinion that the following sequence of events probably occurred:

LCDR COVILL and LCDR MEADER met in LCDR MEADER's office at about 1300U to plan and brief for the flight. The extent of the weather briefing obtained is unknown. Personnel associated with the two pilots during the day indicated that both pilots appeared alert and under no strain; however, the statement given by LCDR MEADER's plane captain indicates that he was not as sociable as usual (enclosure 9).

The flight plan filing, pre-flight, start and departure appeared normal. After take-off, the flight proceeded northward into deteriorating weather. At a point approximately sixty miles north of NAS Alameda, a turn was made toward the east short of the first check point. This decision may have been made due to the deteriorating weather.

At this time and after passing west to east over the main coastal mountain range, the pilots probably assumed that they were clear of the range of mountains and over the Sacramento Valley area. With this assumption and probably due to holes in the overcast and seeing the valley below, they may have decided to descend below the overcast through breaks in the clouds. On descending, they flew into moderate to heavy rain with little to no forward visibility. Very shortly thereafter, they impacted into a short secondary range of hills at the 1100' MSL level, three (3) miles northeast of the town of Guinda. Several Guinda residents approximately 2-3 miles southwest of the accident site heard the impact/explosion at approximately 1400U. These same persons when interviewed, verified that at the time of the accident, there was moderate to heavy rain, very low ceilings, very low visibility and that the hills were completely shrouded in clouds (enclosure 7).

Several reports of the explosion sound were made to the local constable and at about 2330U he notified the sheriff's office in Woodland, California which in turn supposedly notified military authorities of the explosions. However, neither the Air Rescue Squadron nor NARTU Alameda received this information until 1355U on 15 January for reasons unknown.

12. MAINTENANCE FACTORS

Maintenance, servicing and ground handling personnel are not considered a factor in this accident. All applicable and pertinent aircraft, engine,

and seat service changes and bulletins were incorporated in both aircraft. Minor discrepancies were not considered pertinent to the accident.

13. SUPERVISORY FACTORS

a. The instructor/chase pilot erred by not ensuring that a complete weather briefing from Fleet Weather Central for a Sandblower 225 was obtained.

b. The instructor/chase pilot erred by allowing the lead pilot to proceed with the Sandblower when instrument flight conditions were encountered.

14. MATERIAL FAILURES OR MALFUNCTIONS

No material failure or malfunctions were discovered by the Board members.

15. FACILITIES

Facilities are not considered to have been a contributing factor in this accident.

16. NATOPS

There were no NATOPS requirements or procedures considered to be a factor in this accident. No changes to the present NATOPS manual are recommended.

PART VIII: CONCLUSIONS

1. That the primary cause of the accident was pilot error in that both pilots probably thought they were over the Sacramento Valley and inadvertently flew into a high mountain ridge which was enshrouded in clouds and heavy rain while attempting to descent below an overcast.

2. That there were no aircraft or engine malfunctions contributing to the accident.

3. That neither pilot made an attempt to eject prior to impact.

4. That the weather along the SB-225 route was below the minimums required for this flight.

5. That FAA, NAS Operations and COMFAIR Alameda instructions regarding VFR/Sandblower flights were violated during this flight.

6. That a possible contributing factor may have been the pilots' desire under pressure of the pending inspection to complete the flight check regardless of weather conditions and without proper weather briefing preparation.

7. Additional contributing factors may have been - (1) LCDR MEADER's lack of sleep leading to some fatigue, (2) a moderate anxiety level due to:

a. Several repeated failures to get the scheduled flight completed
b. Pressure to complete the flight prior to the upcoming inspection
c. Thoughts of general preparation for the inspection


2
1

Enclosure (2), Photo #[illegible] to NAATU Alameda AAR Serial 1-60A and 2-60A, involving A4A BUNO's 142166/137017, occurring [illegible] 1960, pilots [illegible]

Overhead view of crash site & main wreckage distribution. Note complete destruction of both aircraft. (1) [illegible]'s aircraft, (2) [illegible]'s aircraft. Direction of arrows indicate flight path on impact.

SPECIAL HANDLING [illegible] IN ACCORDANCE WITH OPNAV INST 3750.[illegible]


1
2
2

[illegible]ure (2), Photo [illegible] to
[illegible] Alameda AAR serial [illegible]
[illegible]-[illegible]A, involving [illegible]
[illegible]/13/017, occurring [illegible]
, pilots [illegible]
[illegible] view of crash site [illegible]
wreckage distribution. Note
[illegible] destruction of both
[illegible]raft. (1) [illegible]'s
craft. (2) [illegible]'s air-
[illegible]. Direction of arrows
[illegible]cate flight path on impact.
[illegible]IAL HANDLING REQ'D IN
[illegible] WITH OPNAV INST
3750.[illegible]

2

Enclosure (2), Photo #4 to NARTU Alameda Ltr Serial 3-68A and 4-68A, involving A.A [illegible]'s 142160/137617, occurring 14 Jan 1968, pilots COVILL & MEADER.

Oblique view of crash site looking back down flight path. Note (1) Impact point LCDR MEADER's aircraft, (2) Impact point LCDR COVILL's aircraft.

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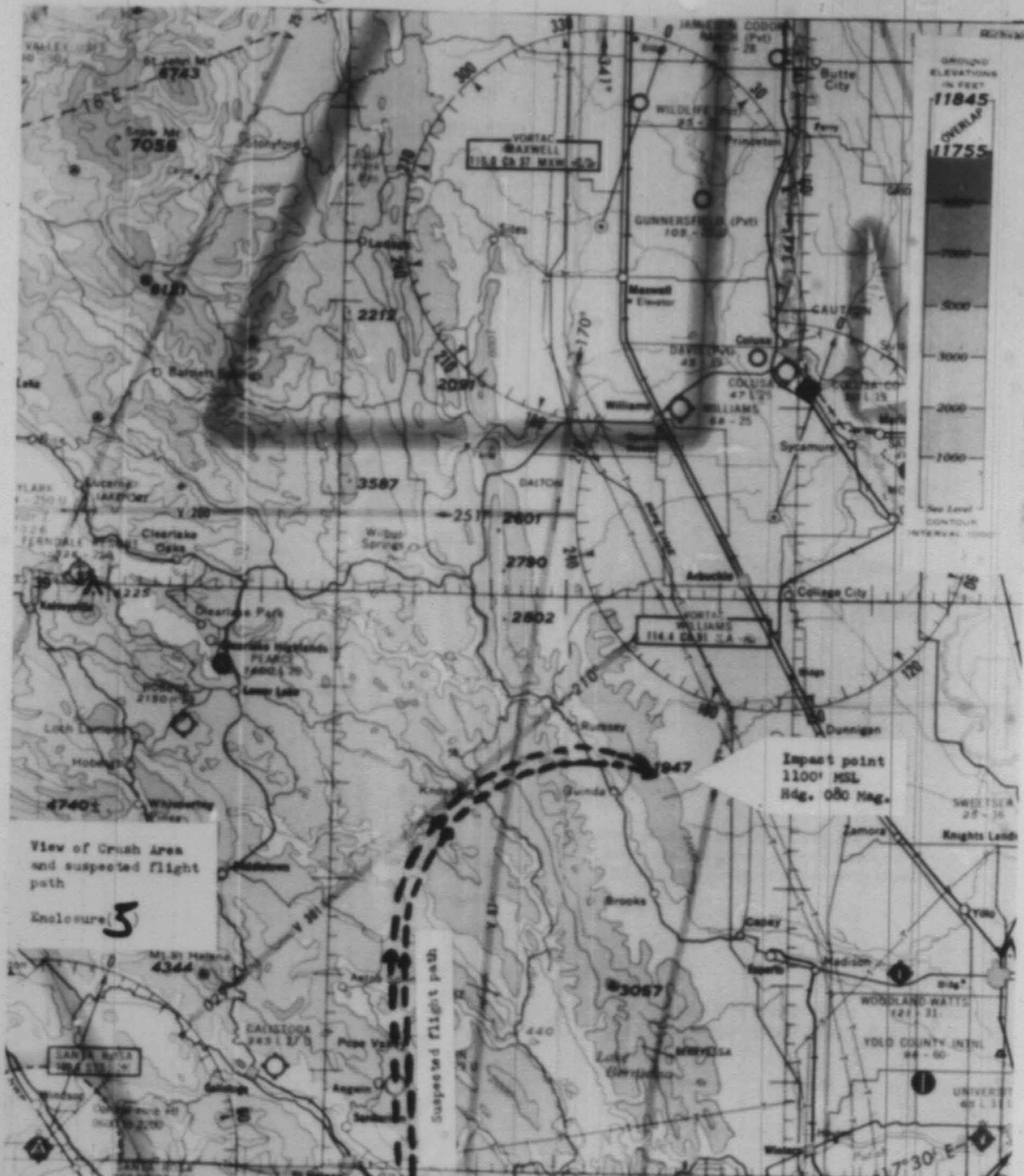
2

Enclosure (2), Photo no to [illegible] serial [illegible], involving [illegible] 142160 and 137817, occurring 14 Jan 19[illegible], pilot [illegible]. Close up view of point of impact [illegible] [illegible]'s aircraft. Note ver. little [illegible] in [illegible] around [illegible] indicating shallow angle of impact and total destruction and wide scattering of [illegible]. Arrow indicates flight path. SPECIAL HANDLING [illegible] IN ACCORDANCE [illegible] OPNAV INST [illegible]

Enclosure (2), Photo #7 to NARTU Alameda AAR Serial 3-68A and 4-68A, involving A4A BUNO's 142160/137817, occurring 14 Jan 1968, pilots COVILL & MEADER.
Close up view of point of impact CDR COVILL's aircraft. Note very little wreckage at impact point, indicating shallow angle of impact and total destruction of and wide scattering of wreckage. Arrow indicates flight path.
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAV INST 5510.6F

Enclosure (2), Photo [illegible] to [illegible]
AAR Serial [illegible], involving AAA [illegible]
142160 137017, occurring 14 Jan 19[illegible], pilots
COVILL & [illegible].
View of jet engine turbine assembly believed
to be from [illegible] COVILL's aircraft. [illegible] 2nd
stage turbine rotor disc assembly. [illegible] 1st
stage turbine rotor disc assy. [illegible]
scrapping on side of 2nd stage disc assembly
and bending of blades. Note blades torn from
1st stage disc assembly. [illegible]
high engine RPM on impact. [illegible]
[illegible] .OF



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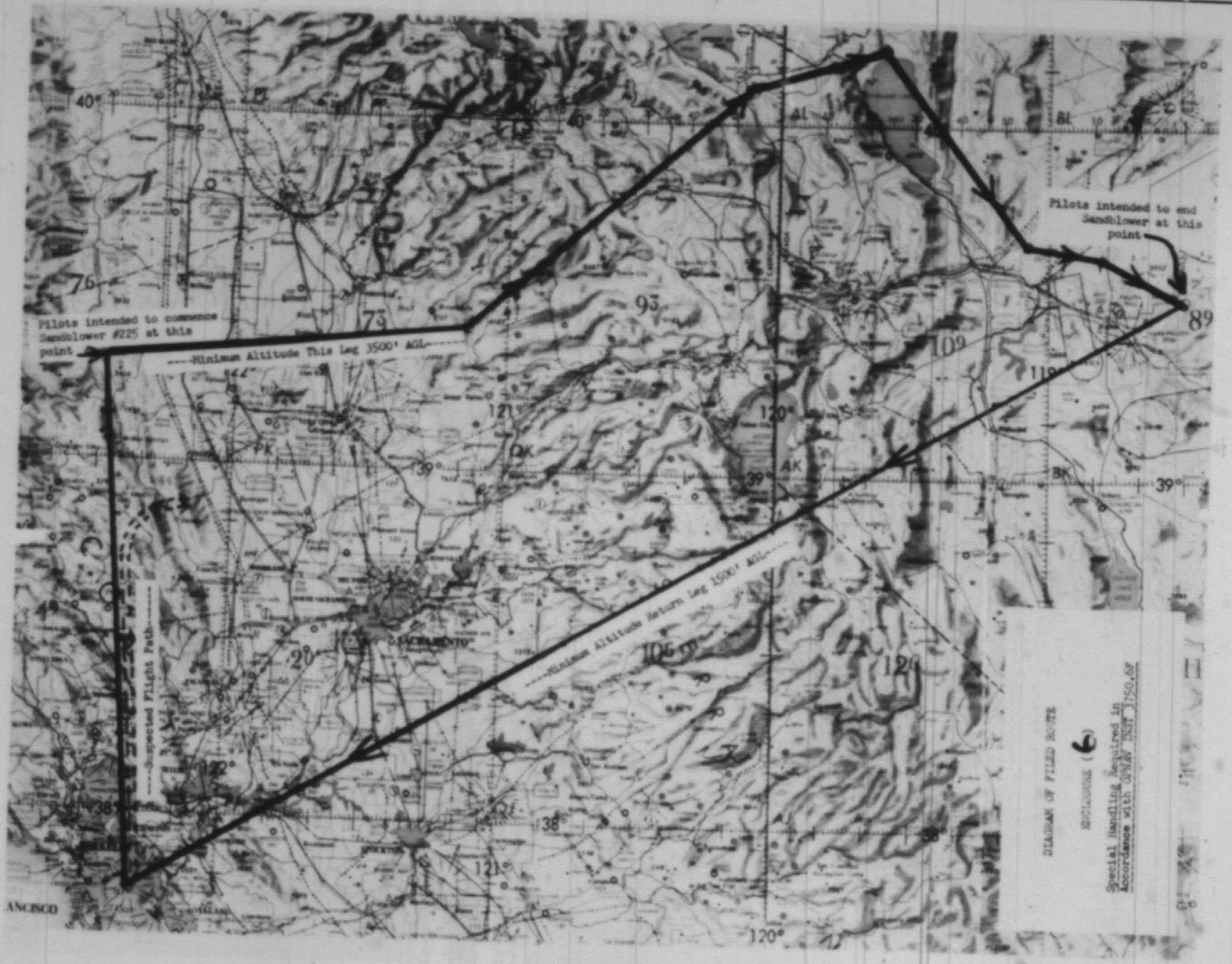
WITH OPNAV INST 3750.6F


Pilots intended to commence Sandblower #225 at this point
Minimum Altitude This Leg 3500' AGL
Pilots intended to end Sandblower at this point
Minimum Altitude Return Leg 1500' AGL
Suspected Flight Path
SACRAMENTO
DIAGRAM OF FILED ROUTE
EXCLUSIONS (6)
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